



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

Table of Contents

Chapter 1 Administration	Chapter 2 Definitions
Chapter 3 General Regulations	Chapter 4 Fixtures, Faucets, & Fittings
Chapter 5 Water Heaters	Chapter 6 Water Supply & Dist.
Chapter 7 Sanitary Drainage	Chapter 8 Ind./Special Waste
Chapter 9 Vents	Chapter 10 Traps, Inter. & Sep.
Chapter 11 Storm Drainage	APPENDIX A-H
Policy Statements	OTHER

100 Chapter 1 Administration

102.1 - Question: What fixture load calculations are to be used for restaurant that stops serving food at 9:30pm and then is used as a bar until 2:00am? Is this a restaurant or a nightclub for occupant load?

Answer: The most restrictive condition must be applied for occupant load count per section 102.1 of the 2012 NC Plumbing Code.

102.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where, in any specific case, different sections of this code specify different materials, methods of construction, or other requirements, the most restrictive shall govern.

200 Chapter 2 Definitions

300 Chapter 3 General Regulations

301.3 - Question: Can outdoor sinks that are tied into the plumbing system water supply dump the sink waste directly into the yard without connecting into the waste water system for the home?



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

Answer: No, The sinks must drain into the home waste water drainage system if there is any food prep, soap or detergent waste in the sink waste water.

301.3 Connections to the sanitary drainage system: All Plumbing fixtures, drains, appurtenances and appliances used to receive or discharge liquid wastes or sewage shall be directly connected to the sanitary drainage system of the building or premises, in accordance with the requirements of this code.

305.5 - Question: Is sliding a piece of split tubing over a pipe acceptable as a pipe sleeve through a foundation wall per section 305.5?

Answer: No, Section 305.5 requires the use of a pipe sleeve two (2) pipe sizes larger than the sleeved pipe or a relieving arch when pipe passes through a foundation wall.

305.5 Pipes through or under footings or foundation wall. Any pipe that passes within 12 inches under a footing or through a foundation wall shall be provided with a relieving arch, or a pipe sleeve shall be built into the foundation wall. The sleeve shall be two (2) pipe sizes greater than the pipe passing through the wall. Piping shall not be run under pier footings (refer to section 307)

305.6 - Question: Is it required to insulate thermal expansion tanks that are installed in residential garages? After all, there is very little if any water that would occupy space in the tank. Should any freezing occur, there would be ample room for any expansion within the tank.

Answer: The ruling from this department on insulating appliances in a garage has been; if the water piping must be insulated, then the expansion tank does as well. NCDOL has concurred with this interpretation and they state "if exposed inside an unheated residential garage, it must be insulated"

312.9 - Question: What inspections are required on a custom built shower pan?



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

Answer: The plumbing contractor is required to water test the pan with a minimum 2" of standing water. The contractor should call in for a "rough" inspection with "shower pan" in the remarks field.

The shower pan inspection is a plumbing requirement in the plumbing code.

312.9 Shower liner test. Where shower floors and receptors are made water-tight by the application of materials required by Section 417.5.2, the completed liner installation shall be tested. The pipe from the shower drain shall be plugged water tight for the test. The floor and receptor area shall be filled with potable water to a depth of not less than 2 inches (51 mm) measured at the threshold. Where a threshold of at least 2 inches (51 mm) high does not exist, a temporary threshold shall be constructed to retain the test water in the lined floor or receptor area to a level not less than 2 inches (51 mm) deep measured at the threshold. The water shall be retained for a test period of not less than 15 minutes, and there shall not be evidence of leakage.

400 Chapter 4 Fixtures, Faucets & Fittings

403.1 - Question: DMV requires me to have a building for sales records on my car sales lot, do I have to install a toilet room in the building?

Answer: If the records storage building is unheated, accessed only periodically can only used for record storage, then it can meet the requirements of footnote (N) of table 403.1 of the NC Plumbing Code and a toilet room is not required.

Table 403.1 – MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

n- Unheated storage building which is used periodically are not required to have toilet rooms.

If the records storage building is used to negotiate sales with the public or the public enters the building for business reasons, then the building is classified as Business Occupancy and a toilet room is required to be installed. If an employee occupies the building



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

403.2 - Question: If two toilet rooms are required, one male and one female, can they both be unisex bathrooms?

Answer: Under the current plumbing code requirements where unisex toilet rooms scoping requirements are not met in section 403.2, they would have to be separated between male and female. However, there has been an amendment approved by the building code council effective January 1, 2015 that allows them to be unisex.

Section 403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 25 or less
3. Separate facilities shall not be required in Mercantile occupancies un which the maximum occupant load is 100 or less
4. Except as provided in section 405.3.2
5. Where the code requires only one toilet facility for each sex, two unisex facilities may be substituted for separate facilities.

403.4 - Question: May tenants access their restroom facilities from outside the structure where they may be subject to the elements?

Answer: No, Sections 403.4, 403.5 and 403.6 stipulate the facilities must be within the building or tenant space and may be located on the floor above or below the tenant space. There are a few exceptions such as guard shacks, kiosk



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

and storage structures within 500 feet and under the same ownership, lease or control.

500 Chapter 5 Water Heaters

502.8 - Question: Can a gas water heater be installed in the attic, where the attic access is a pull down stair located in a closet of a bedroom?

Answer: Yes, nothing prohibits the attic access from being in the closet. Section 502.8 states the water heater cannot be installed in the closet off the bedroom, unless the door is weather stripped and is equipped with a self closer. In this case the water heater is installed in the attic, not the closet.

502.8 Prohibited installations. Water heaters, (using solid, liquid or gas fuel) with the exception of those having direct vent systems, shall not be installed in bathrooms and bedrooms or in a closet with access only through a bedroom or bathroom. However, water heaters of the automatic storage type may be installed as replacement in a bathroom, when approved by the plumbing official, provided they are vented and supplied with adequate combustion air.

Exception: When a closet, having a weather-stripped solid door with an approved closing device, has been designed exclusively for the water heater and where all air for combustion and ventilation is supplied from outdoors.

504.6 - Question: Can a water heater T&P discharge to a wood floor over a crawlspace?

Answer: No, Per the NCDOL interpretation dated August 28, 2015. if the floor over the crawl space has wood joists, flooring or subflooring, the water heater relief valve discharge should discharge through a visible air gap in the space the water heater is in and according to all of the requirements of section 504.6
See attached interpretation from NCDOL

600 Chapter 6 Water Supply and Distribution



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

606.2 - Question: Are shut off valves required for lavatories?

Answer: Yes, Section 606.2 requires shutoff valves on the fixture supply to each plumbing fixture other than bathtub and showers.

606.2 Location of shutoff valves. Shutoff valves shall be installed in the following locations:

1. On the fixture supply to each plumbing fixture other than bathtubs and showers.
2. Deleted.
3. On the water supply pipe to each appliance or mechanical equipment.

607.3 - Question: When are thermal expansion devices required?

Answer: These devices are required on distribution systems containing a water heater and a backflow or check valve that would prohibit the expanding water from backing up into the main OR if the water main pressure exceeds the pressure rating of the T&P valve.

607.3 Thermal expansion control. A means of controlling increased pressure caused by thermal expansion shall be provided where required in accordance with Sections 607.3.1 and 607.3.2.

607.3.1 Pressure-reducing valve. For water service system sizes up to and including 2 inches (51 mm), a device for controlling pressure shall be installed where, because of thermal expansion, the pressure on the downstream side of a pressure-reducing valve exceeds the pressure-reducing valve setting.

607.3.2 Backflow prevention device or check valve. Where a backflow prevention device, check valve or other device is installed on a water supply system utilizing storage water heating equipment such that thermal expansion causes an increase in pressure, a device for controlling pressure shall be installed.



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

608.3 - Question: Does a humidifier that is connected to the water supply, require backflow protection?

Answer: Yes, Section 608.3 NCPC requires all devices, appurtenances, appliances and apparatus serving a special function to be provided with backflow protection.

608.3 Devices, appurtenances, appliances and apparatus. All devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to the water supply system, shall be provided with protection against backflow and contamination of the water supply system. Water pumps, filters, softeners, tanks and all other appliances and devices that handle or treat potable water shall be protected against contamination.

700 Chapter 7 Sanitary Drainage

800 Chapter 8 Ind./Special Waste

900 Chapter 9 Vents

1000 Chapter 10 Traps and Interceptors

1003.3.1 - Question: What fixtures are required to go through a grease collection device?

Answer: An interceptor is required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas.

Examples:

Floor drains in the kitchen area

3 compartment sinks

Prep Sinks

Can wash



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

1003.3.1 Grease interceptors and automatic grease removal devices required. A grease interceptor or automatic grease removal device shall be required to receive the drainage from fixtures and equipment with grease-laden waste located in food preparation areas, such as in restaurants, hotel kitchens, hospitals, school kitchens, bars, factory cafeterias and clubs. Fixtures and equipment shall include pot sinks, prerinse sinks; soup kettles or similar devices; wok stations; floor drains or sinks into which kettles are drained; automatic hood wash units and dishwashers without prerinse sinks. Grease interceptors and automatic grease removal devices shall receive waste only from fixtures and equipment that allow fats, oils or grease to be discharged.

1003.4 - Question: Would a stereo install bay in a Big Box Store, require oil/water separators?

Answer: No! Only engine/transmission repair and oil change establishments where there are floor drains subject to an oily environment. Occupancies without oil and/or bays without drains would not require a separator.

1003.4 Oil separators required. At repair garages, car-washing facilities, at factories where oily and flammable liquid wastes are produced, separators shall be installed into which all oil-bearing, grease-bearing or flammable wastes shall be discharged before emptying into the building drainage system or other point of disposal.

1100 Chapter 11 Storm Drainage

Appendix

Policy - Question: Can a plumbing make their own neutralizer cartridge for condensing water heaters/furnaces? It is just lime inside a pipe

Answer: No, the neutralizer cartridges must be listed.



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

Policy

Policy - Question: How much roughing is required on a residential bathroom installed in a basement “for future”?

Answer: Future rough piping shall include all piping below the slab, a stub for the vent and a stub for the building drain and water distribution if not accessible later. Should the future bath require a sewage lift to reach the drainage system and the desire is to locate this sewage lift within the structure, then the tank and pump shall be included a part of the future rough piping

Policy - Question: When do I need a permit to repair a water service line?

Answer: The department has a local interpretation for "damage repair" of a water service line. No permit is required if the repair is limited to 5 feet or less of line. Please note this only applies to damage repair and not line moves, maintenance, etc.

Policy - Question: Does the Code require a drain in a dumpster pad?

Answer: No, but if the owner/designer wishes to provide a drain, then the 2” drain (min.) shall discharge to the sanitary system via a grease interceptor, and the area around the pad shall be sloped away (or curbed) from the pad so the drain does not receive water other than that which falls directly in the pad.

Policy - Question: When does a condensing water heater or furnace need a neutralizer? Who inspects the condensate drain?

Answer: If manufacturer states that their condensate will be below PH 6, then they must have a neutralizer. At this point they can either go to sanitary, outdoors



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

or other approved means of disposal, as it is now PH neutral(7). It will all depend on what the manufacturer's installation instructions of the water heater/furnace says.

The plumbing inspector will check all plumbing connections. The mechanical inspector will check the gas line, venting (if applicable) and the condensate (if applicable)

Policy - Question: What piping is allowed to be installed during the Shell?

Answer: Plumbing during the SHELL PHASE is limited to a building sewer, a building water service, a building drain and associated piping below the concrete slab, a water distribution MAIN (below or above grade) with associated service valves, and roof drains/scuppers. NO piping other than that listed previously, equipment or fixtures above the slab are allowed. Also, the Plumbing Plan reviewer or the Code Administrator may allow exceptions on a case by case basis. This interpretation is from 2008 and is still used today.

See attached interpretation

Other

Other - Question: Does the set screw on a vacuum breaker have to be broken off?

Answer: Yes, we researched several manufacturers and all of the required the set screw to be broken off as part of the installation instructions.

Other - Question: There is a manufacturer that makes a FHA plate that is 16 inches, instead of 18; are we allowed to use these?

Answer: Yes, we can find nothing in the code that prohibits the use of a 16 inch FHA plate. Section R602.6.1 only requires the following:



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

16ga

1.5 inches wide

Not less than eight 10d nails on each side

Must extend a minimum of 6 inches past the opening

Other - Question: I am inspecting a warehouse and they are installing a single urinal in an existing restroom. They feel the code doesn't require that urinal to be accessible, are they right?

Answer: Yes, Section 1109.2 #4; does not require the urinal to be accessible if it is the only urinal provided.

1109.2 Toilet and bathing facilities. Each toilet room and bathing room shall be accessible. Where a floor level is not required to be connected by an accessible route, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be accessible.

Exceptions:

1. In toilet rooms or bathing rooms accessed only through a private office, not for common or public use and intended for use by a single occupant, any of the following alternatives are allowed:

1.1. Doors are permitted to swing into the clear floor space, provided the door swing can be reversed to meet the requirements in ICC A117.1;

1.2. The height requirements for the water closet in ICC A117.1 are not applicable;

1.3. Grab bars are not required to be installed in a toilet room, provided that reinforcement has been installed in the walls and located so as to permit the installation of such grab bars; and



NC Plumbing Code

1st Qtr. 2015 Code Answers in brown (Jan-Mar) 2nd Qtr. 2015 Code Answers in green (Apr- Jun)
3rd QTR 2015 Code Answers in blue (Jul-Sep) 4th QTR 2015 Code Answers in red (Oct-Dec)

- 1.4. The requirement for height, knee and toe clearance shall not apply to a lavatory.
2. This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1107.
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be accessible.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be accessible.
5. Toilet rooms that are part of critical care or intensive care patient sleeping rooms are not required to be accessible.

Other - Question: Are hose bibs required by the NC Plumbing Code in Residential Construction?

Answer: No, hose bibs are not a required fixture in residential construction and are optional

Other - Question: Can a hose bibb with a vacuum breaker be used in lieu of RPZ for a pool fill?

Answer: No, most pool fills are a direct connection which will not work with the hose bibb/vacuum breaker. Per Table 608.1 NCPC, a hose connection vacuum breaker is limited to a maximum size of 1 inch.